MONTHLY WEATHER REVIEW.

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BOARD OF EDITORS { Mr. Horace E. Smith, Chief Clerk Weather Bureau, Professors Henry A. Hazen, Thomas Russell, and Charles F. Marvin, and Mr. Edward B. Garriott, in charge of Review Room.

INTRODUCTION.

This REVIEW is based on reports for September, 1891, from 2,571 regular and voluntary observers. These reports are classified as follows: 158 reports from Weather Bureau stations; 118 reports from United States Army post surgeons; 1,721 monthly reports from state weather service and voluntary observers; 32 reports from Canadian stations; 179 reports through the Central Pacific Railway Company; 363 marine reports through the co-operation of the Hydrographic Office, Navy Department; marine reports through the "New York Herald Weather Service;" monthly reports from the local weather services of Alabama, Arkansas, Colorado, Illinois, Indiana, Iowa Weather and Crop Service, Kansas, Kentucky, Louisiana, Maryland, Michigan, Minnesota, Mississippi, Missouri, Nebraska, Nevada, New England, New Jersey, New Mexico, New York, North Carolina, North Dakota, Ohio, Oregon, Pennsylvania, South Carolina, South Dakota, Tennessee, Texas, Utah, Virginia, Washington, and Wisconsin, and international simultaneous observations. Trustworthy newspaper extracts and special reports have also been used.

CHARACTERISTICS OF THE WEATHER FOR SEPTEMBER, 1891.

In the north-central districts and at stations on the east New England coast the month was the warmest September on record. From the 16th to the 19th a warm wave extended over the central valleys and east of the Alleghany Mountains, attended by the highest temperature on record for the season from the lower Missouri valley to the upper lakes, and from the 21st to the 25th the highest temperature on record for the third decade of September was noted in the upper Mississippi and Ohio valleys and the Lake region.

The coolest weather of the month occurred from the Lake region and lower Missouri valley to the Gulf and middle Atlantic and New England coasts during the first decade, and along the Pacific coast, over the Rocky Mountain and plateau regions, from the Missouri Valley over the west part of the Lake region, on the south Atlantic coast, and in Florida during the third decade of the month. Light and heavy frosts occurred in the northern tier of states; as far south as the Ohio and lower Missouri valleys, Colorado, and Utah; and in Oregon and northern California.

PRECIPITATION.

Less than the usual amount of precipitation was reported east of the 100th meridian, except over the Florida Peninsula and in the Canadian Maritime Provinces, where the rainfall was in excess of the average. The precipitation was also generally in excess in the Rocky Mountain and plateau regions. Over the middle-eastern part of the plateau region, on the adjoining eastern slope of the Rocky Mountains, and on the extreme north Pacific coast the monthly precipitation was the greatest, and at stations in the central valleys it was the least ever reported for September. The first light snow of the season was noted at elevated stations in the middle and northern Rocky Mountain and plateau regions during the third decade of the month, and in the mountains of Colorado a total depth of five to ten inches was reported.

STORMS.

Compared with the summer months a marked decrease in the number of local storms is noted for September. No tornadoes were reported, and the more severe storms were general in character, and, as a rule, unattended by serious loss.

AURORAS.

Numerous and widely-observed auroral displays were reported. On a number of dates they were noted generally in the more northern states east of the Rocky Mountains, and on the 11th from the Atlantic to the Pacific coasts and southward in the central valleys to the 40th parallel.

DROUGHT.

In parts of New England, the middle Atlantic and east Gulf states, in the states of the middle and lower Mississippi, Ohio, and lower Missouri valleys, and in portions of the upper lake region the month was very dry, and in areas in the Southern States crops were injured by drought. Navigation on the middle and lower Mississippi river and tributaries was rendered difficult by low water.

ATMOSPHERIC PRESSURE (expressed in inches and hundredths).

The distribution of mean atmospheric pressure for September, 1891, as determined from observations taken daily at 8 a. m. and 8 p. m. (75th meridian time), is shown on Chart II by isobars.

The mean pressure was highest along the Atlantic coast between the 35th and 42d parallels and thence westward over the Ohio Valley and Tennessee, where it was above 30.15, whence it decreased northward to 30.00 over the lower Saint Lawrence valley, northwestward to less than 29.90 over the British Northwest Territory, and westward to less than 29.85 over the west part of the southern plateau region. From the southern plateau region there was an increase in press-